SFUND RECORDS CTR
1851-05662

AR0277

Record of Decision Amendment
Suburban Water Systems/Bartolo Well Field Operable Unit
San Gabriel Valley Superfund Site Areas 1-4
Declaration

Statement of Basis and Purpose

This decision document presents the Amendment to the Record of Decision (ROD) for the Suburban Water Systems (SWS)/Bartolo Well Field Operable Unit, in the San Gabriel Valley Superfund Sites Areas 1-4. This decision was made in accordance with the Comprehensive Environmental Response, Compensation, And Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and the National Contingency Plan (NCP). This decision is based on the Administrative Record file for this Operable Unit (OU). The State of California concurs with this decision.

Description of the Amendment

The remedy selected in the September 29, 1988, ROD for the SWS' Bartolo Well Field OU consisted of the installation of a groundwater treatment system at the SWS' Bartolo Well Field to treat water contaminated with perchloroethene (PCE) to 1 part per billion (ppb). At the time of the 1988 ROD, there was no state or federal standard for PCE. Subsequent to the original ROD, EPA and the State of California have established a new drinking water standard of 5 ppb for PCE. This Amendment sets the treatment level for all contamination at the federal or state drinking water standard, whichever is lower. This Amendment also considers Southern California Air Quality Management District Regulation 13 and Rule 1401 as ARARs for the emissions control system of the treatment plant. Because contaminant levels have not increased in the SWS' Bartolo Well Field (contrary to computer modeling predictions), this Amendment also delays the building of the treatment system until certain conditions are met as described below. EPA will instead evaluate, for at least a 5 year period, water quality sampling results from the SWS' Bartolo Wells in conjunction with sampling results obtained from the Whittier Narrows monitoring network.

If groundwater conditions change to where monitoring data from the three "low" capacity wells or monitoring data from the "high" capacity well and one "low" capacity well, in the SWS' Bartolo Well Field, demonstrate a trend of steadily increasing contamination levels above MCLs for at least a four (4) month period, EPA will begin evaluating optimal locations for a treatment system and begin reevaluating the existing treatment system design or begin evaluating a new treatment system, under the observed groundwater conditions. If the trend above MCLs in the wells mentioned above continues for an additional two (2) month period, EPA will either

begin construction of the current treatment system design, if appropriate, or complete design of a new treatment system and implement the design. In the interim, while the treatment system is being designed or constructed, EPA will evaluate the use of, and if feasible, implement mobile or temporary treatment systems.

Declaration

Current groundwater conditions at the SWS' Bartolo Well Field pose no public health threat, therefore, no remedial action is necessary at this time. However, future groundwater conditions cannot be accurately predicted and may change over time. EPA will therefore monitor and evaluate groundwater data from the SWS' Bartolo Well Field over a five-year period, to ensure continued protection of public health. The five-year period to be used for the review will start when field work (monitoring well installation) for the Whittier Narrows ROD commences.

John C. Wise

John C. Wise, Acting Regional Administrator

9.22.93

Date

RECORD OF DECISION AMENDMENT

SUBURBAN WATER SYSTEMS / BARTOLO WELL FIELD OPERABLE UNIT

SAN GABRIEL VALLEY SUPERFUND SITE AREAS 1-4

September 1993

I. INTRODUCTION

On September 29, 1988, the United States Environmental Protection Agency (EPA) signed a Record of Decision (ROD) for the Suburban Water Systems' (SWS') Bartolo Well Field Operable Unit for the San Gabriel Valley Superfund Sites, Areas 1-4. The purpose of this ROD Amendment is to explain the differences between the remedial action originally selected in the 1988 ROD, and the remedial action which will be implemented at the SWS' Bartolo Well Field Operable Unit.

Under section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendment and Reauthorization Act of 1986 (CERCLA), and pursuant to 40 C.F.R. § 300.435(c)(2)(ii) (55 Fed.Reg. 8666, 8852 (March 8, 1990)), EPA is required to prepare a ROD Amendment when fundamental changes are made to a final remedial action plan as described in a ROD.

This document provides a brief background of the SWS' Bartolo Well Field, a summary of the remedy selected in the original ROD, a description of the changes to the ROD that EPA is making, and an explanation of why EPA is making changes to the ROD.

EPA is issuing this ROD Amendment to take into account additional information obtained during project design and not available when the 1988 ROD was signed; to reflect comments by Potentially Responsible Parties (PRPs) who were not identified when the original ROD was signed; and to reflect changes in the law since the original ROD was signed. The changes included in this ROD Amendment are: (1) treating water to meet new federal drinking water standards for perchloroethene; (2) revising overall cost estimates for the treatment facility; (3) providing treatment for air emissions from the treatment facility that will meet the South Coast Air Quality Management District (SCAQMD) regulations for air emissions without offsets; and (4) to delay the construction of the treatment facility until such time as groundwater contamination in the eastern Whittier Narrows area is believed by EPA to pose a threat to public health.

This ROD Amendment and the supporting documentation will become part of the SWS' Bartolo Well Field Operable Unit Administrative Record.[1] A copy of the Administrative Record has been placed at the Whittier Central Public Library, 7344 South

---

[1] EPA held a thirty day public comment period on this ROD Amendment. All comments received during this time period and EPA's responses to those comments have been included in the SWS' Bartolo Well Field Operable Unit Administrative Record in accordance with 40 C.F.R. § 300.825(b). In addition, EPA has also included comments received after the close of this comment period and EPA's responses to these late comments in the SWS' Bartolo Well Field Operable Unit Administrative Record. Including these late comments and EPA's responses is not required. (See 40 C.F.R. § 300.825(2)(c)).

Washington Street, Whittier, California, as well as in the Records Center at EPA Region 9, 75 Hawthorne Street, San Francisco, California.

II. BACKGROUND

The following section provides a brief background of the SWS' Bartolo Well Field Operable Unit and a short summary of the remedy selected in the 1988 ROD. Additional background information can be found in the September 29, 1988, ROD, and in the SWS' Bartolo Well Field Operable Unit Administrative Record.

A. Site Location and History

The San Gabriel Valley Superfund Site Areas 1 - 4 are located in Los Angeles County approximately 10 - 20 miles east of Los Angeles in southern California (Figure 1 inset). The sites are four broad areas of groundwater contamination underlying significant portions of the cities of Azusa, Baldwin Park, La Puente, City of Industry, West Covina, El Monte, South El Monte, Monrovia, Arcadia, Rosemead, Alhambra, and other municipalities or unincorporated areas of the San Gabriel Valley. The sites include industrial, commercial, residential, as well as undeveloped areas. To provide planning flexibility, the entire San Gabriel Valley has been subdivided into seven Remedial Investigation (RI) areas as shown in Figure 1.

Groundwater contamination by volatile organic compounds (VOCs) was first detected in the valley when Aerojet Electrosystems in Azusa sampled a nearby groundwater well owned by Valley County Water District and found 1800 parts per billion (ppb) of

trichloroethene (TCE).[2] The Maximum Contaminant Level (MCL) for this substance in drinking water, as set by both EPA and the State of California, is 5 parts per billion (ppb). Subsequent sampling by the California Department of Health Services (DHS) and the Los Angeles County Department of Health Services identified over 50 wells throughout the San Gabriel Basin contaminated with TCE, perchloroethene (also known as tetrachloroethene or PCE), or carbon tetrachloride (CTC) at concentrations above the action levels established by DHS.

In September 1983, EPA evaluated the threat posed by the contamination in the San Gabriel Valley, and proposed the area for inclusion on the National Priorities List (NPL). In May 1984, the area was listed on the NPL as San Gabriel Valley Areas 1-4.

SWS' Bartolo Well Field consists of four public water supply wells located along the east side of the San Gabriel River in the Whittier Narrows area (Figure 2). The contamination in this area may be associated with sources in areas 1,2 and 4. These four wells provide about 55-60% of the water supply for approximately 17,000 commercial and residential water connections representing approximately 51,200 persons in SWS's Whittier Service District. In addition, the Bartolo Well Field provides a small percentage of the water supply for the neighboring La Mirada Service District.

---

[2] The Maximum Contaminant Level (MCL) for this contaminant is 5 ppb. As explained in more detail below, drinking water which meets the MCL is considered to be protective of human health. In this instance, the contaminant level is approximately 360 times greater than the level permitted in drinking water.

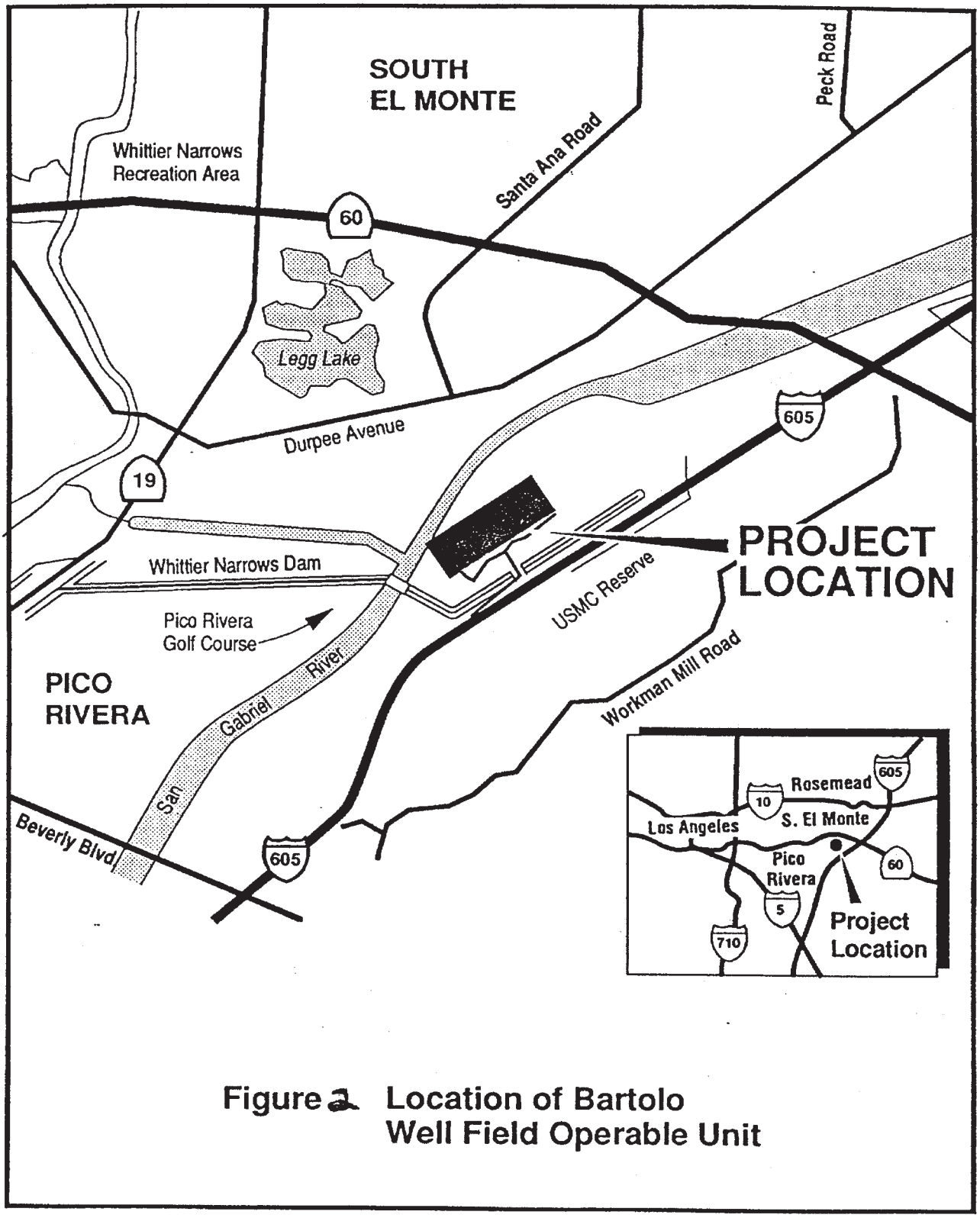

Figure 2. Location of Bartolo Well Field Operable Unit

B. 1988 RECORD OF DECISION

The 1988 Record of Decision selected a remedy to address a potential public health threat posed by contamination of Suburban's public water supply wells. This response action constituted the second EPA remedial action in the San Gabriel Valley[3] and was designed to achieve two objectives: (1) to partially control the movement and spread of contaminants in the Whittier Narrows area of the San Gabriel Valley, thereby contributing to contaminant removal from the San Gabriel Valley Areas 1, 2, and 4 sites; and (2) to address the potential public health threat posed by contamination of SWS's Bartolo Well Field.

The remedial action selected in the original decision document to achieve these objectives incorporated the following components:

1. Extraction of groundwater from the existing wells in SWS' Bartolo Well Field;

2. Construction of a packed tower air stripping system to treat contaminated groundwater. The treatment facility was to be built on SWS' property at the Bartolo Well Field. Since this location is within the 100-year floodplain of the San Gabriel River, appropriate floodproofing measures were to be incorporated into the treatment system design to minimize the damage to the facility and to limit

[3] The first response action was taken at Richwood Mutual Water Company in 1988 to supply drinking water. EPA expects several additional actions to be taken in the San Gabriel Valley over the next five to ten years.

the downtime after a flood event;

3. Installation of a vapor-phase Granulated Activated Carbon (GAC) off-gas treatment system to control Volatile Organic Compound (VOC) air emissions from the air stripping system;

4. Treatment of contaminated water to contaminant concentrations at or below maximum contaminant levels (MCLs) resulting in a cumulative cancer risk level of 10^{-6} or less[4]; and

5. Use of the treated groundwater as drinking water supply for SWS's customers by feeding the treated water directly into SWS's existing water distribution system.

At the time the original record of decision was signed, PCE was recognized as a potential carcinogen in water even though no MCL existed. The treatment level for PCE was set at 1 ppb, which corresponded to the cumulative cancer risk of 10^{-6}.[5] This treatment level was calculated based upon projections of the maximum levels of all contaminants that could possibly be expected at the Bartolo Well Field over a 30-year period.

---

[4] The cumulative cancer risk of 10^{-6} risk level was established as "the point of departure for determining remediation goals for alternatives when ARARs are not available or are not sufficiently protective because of the presence of multiple contaminants at a site or multiple pathways of exposure." (See 40 C.F.R. §300.430(e)(2)(A)(2))

[5] See footnote number 3 for more explanation on the cumulative cancer risk.

The original record of decision identified South Coast Air Quality Management District (SCAQMD) Rule 1167 as the basis for incorporating air emissions control. At the time the ROD was signed, this was a "to be considered" requirement rather than an Applicable or Relevant and Appropriate Requirement (ARAR)[6].

The Operable Unit Feasibility Study (OUFS) estimated the present worth cost of the selected remedy at $15 Million, based on a 30 year project life.

The response action is the first phase of a potential larger response action initially planned for the Whittier Narrows area to limit or control migration of contamination, if necessary, within the Whittier Narrows area. It also addresses a small part of the overall groundwater contamination problem in the San Gabriel Valley Superfund Site, Areas 1-4. Several additional operable units are planned to address other aspects of the San Gabriel sites' contamination.

III. AMENDMENT TO THE 1988 RECORD OF DECISION

A. Introduction

This Amendment to the 1988 ROD for the SWS' Bartolo Well Field clarifies and modifies certain points set forth in EPA's 1988 SWS' Bartolo Well Field ROD.

This Amendment to the 1988 ROD addresses the treatment level

---

[6] In addition to ARARs, EPA may, as appropriate, "identify other advisories, criteria, or guidance to be considered for a particular release. The 'to be considered' (TBC) category consists of advisories, criteria, or guidance that were developed by EPA, other federal agencies, or states that may be useful in developing CERCLA remedies." 40 C.F.R. §300.400(g)(3)

for PCE in the water, the air emissions levels, the 30 year estimated cost of the project, and the "schedule" for construction of the project. The other features of the remedy selected in the 1988 ROD are otherwise unchanged.

B. Summary of ROD Amendments

The 1988 ROD established a target risk of 10^{-6} (one excess cancer risk in one million people) which corresponded to a cleanup level of 1 part per billion (ppb) for PCE. Subsequent to the original ROD, a new MCL of 5 ppb was established for PCE by both EPA and the California Department of Toxic Substances Control. Treating drinking water to meet MCLs is considered protective of human health by both agencies. This Amendment sets the treatment level for all contaminants at the Federal or State MCL, whichever is lower. Meeting MCLs will result in a lower reduction of risk compared to the treatment levels set in the 1988 ROD, however, the new cleanup levels remain well within EPA's acceptable risk range of 10^{-4} to 10^{-6}, and will reduce total project costs by an estimated six million dollars. These cleanup levels will also help achieve **EPA's primary goal of containing groundwater contamination within the San Gabriel Basin**, with an added benefit of providing drinking water that meets MCLs.

SCAQMD Rule 1167, although a "to be considered" rule in 1988, was not an ARAR. SCAQMD has more recently identified its Regulation 13, Rule 1401, Rule 212, and Rule 402 as the potential ARARs for this project. Regulation 13 and Rule 1401 require air emissions control that are more stringent than Rule 1167. This

Amendment considers SCAQMD Regulation 13 and Rule 1401 as the ARARs for the air emissions control system.

Cost estimates for this project have increased since the OUFS estimate. The 1988 OUFS projected a total present worth project cost of $15 Million, based on a 30 year project life and a 5% interest rate. The updated 60% design estimate in 1991 for this project was $24 Million, also based on a 30 year project life and a 5% interest rate. The reasons for the difference are twofold: 1) the design has accounted for the more stringent air emissions control required; and 2) the design estimate contains a much higher level of detail than the OUFS estimate.

1. Explanation of Significant Changes

The 1988 Suburban Feasibility Study relied on computer modeling that predicted contaminant levels would rise above MCLs within several years. There are many complex factors affecting chemical movement and chemical concentrations in groundwater including retardation and natural attenuation of contamination, as well as remedial activities that eliminate sources of contamination. EPA used very conservative assumptions (e.g., the highest chemical concentrations analyzed in groundwater, chemicals would move at the same rate as groundwater) in the model and did not take into consideration such factors as natural attenuation, dilution, retardation, complex groundwater flow patterns, and the elimination of contaminant sources, when contamination levels at the SWS' Bartolo Well Field were predicted.

During design of the treatment system, contaminant levels in

the Bartolo Well Field area failed to reach levels that were projected in the 1988 Feasibility Study. Contaminant levels at the Bartolo Well Field and at virtually all nearby wells sampled by EPA in 1991 and 1992, remain below MCLs. The issue of low contaminant levels that were not increasing was raised during the July, 1991 public comment period for the proposed amendment. In light of current data and public comments, EPA will postpone indefinitely construction of the treatment facility until certain conditions are met as described below.

The SWS' Bartolo Wells which are comprised of three (3) "low" capacity wells and one (1) "high" capacity well, are currently being monitored monthly by Suburban Water Systems pursuant to the requirements of Title 22, California Code of Regulations. EPA will evaluate the data collected by Suburban Water Systems and incorporate the data into the data base for the Whittier Narrows Operable Unit. In addition, EPA may also collect groundwater samples from the SWS' Bartolo Well Field as necessary, to supplement and/or verify the existing monitoring.

If monitoring data from the three low capacity wells or monitoring data from the high capacity well and one low capacity well demonstrate a trend of steadily increasing contamination levels above MCLs for at least a four (4) month period, EPA will then begin evaluating optimal locations for a treatment system and begin reevaluating the existing treatment system design, or begin evaluating a new treatment system, under the observed groundwater conditions. If the trend above MCLs continues for an additional two

(2) month period, EPA will either begin construction of the current treatment system design, if appropriate, or complete design of a new treatment system and implement the design.

In the interim, while the treatment system is being designed or constructed, EPA will evaluate the use of, and if feasible, implement mobile or temporary treatment facilities. If remedial action is not undertaken by the end of the five-year monitoring period, then EPA will proceed with the five-year review.

C. Evaluation of the Nine Criteria

The National Contingency Plan (NCP), 40 C.F.R. § 300.430(e)(9)(iii) establishes nine (9) criteria against which a remedy must be compared. The nine criteria are as follows:

1. compliance with applicable or relevant and appropriate requirements (ARARs);
2. overall protection of human health and the environment;
3. short-term effectiveness in protecting human health and the environment;
4. long-term effectiveness in protecting human health and the environment;
5. reduction of toxicity, mobility, and volume of contaminants;
6. technical and administrative feasibility of implementation;
7. capital and operation and maintenance costs;
8. state acceptance; and
9. community acceptance.

This Amendment affects the original evaluation of only four of the nine criteria: compliance with applicable or relevant and appropriate requirements (ARARs); overall protection of human health and the environment; reduction of toxicity, mobility and volume of contamination; and, capital and operation and maintenance costs. The application of the remaining five criteria is unaffected by this Amendment.

a. compliance with applicable or relevant and appropriate requirements (ARARs);

Original ROD Yes, complies with ARARs, with "offsets" for excess air emissions

Amended ROD Yes, complies with ARARs, without "offsets"

There are two new ARARs for this Operable Unit since the original ROD was signed in 1988: (1) the establishment of Federal and State MCLs for PCE; and (2) the SCAQMD rules and regulations setting limits for air emissions. Pursuant to the NCP, EPA is required to meet new ARARs only when such ARARs are determined to be necessary to be protective of human health and the environment, as specified in 40 C.F.R. § 300.430(f)(1)(ii)(B)(1). For the purposes of this ROD amendment, although not bound by law to do so, EPA is electing to meet the new more stringent SCAQMD regulations, as EPA had elected to meet the substantive requirements of Rule 1167.

Compliance with the new MCL for PCE is being met for reasons other than those set forth in 40 C.F.R. § 300.430(f)(1)(ii)(B)(1). These reasons include EPA's ability to provide treatment of

drinking water to levels protective of human health, while reducing the costs of this project. These reasons are discussed later in section III.C.(b),(c), and,(e) of this document.

ARARs can be grouped into three categories: chemical-specific ARARs; action-specific ARARs; and location-specific ARARs. The chemical-specific ARARs that apply to this response action are the Safe Drinking Water Act (Federal) MCLs and the California MCLs, whichever is the more stringent. Table 1 lists the federal and California MCLs for the site contaminants of concern from the Public Health Evaluation in the Suburban OUFS Report. It should be noted that no additional contaminants of concern have been detected in subsequent sampling. Table 1 also lists the Maximum Contaminant Level Goals (MCLGs) for these contaminants. MCLGs, which are based only upon health criteria, are not directly applicable as chemical-specific requirements because they are not enforceable standards.

The primary action-specific requirements affecting this response action are the SCAQMD's Regulation 13 and Rule 1401. The purpose of Regulation 13 is to control VOCs as precursor emissions to ozone formation in the South Coast Air Basin. Rule 1401 controls air emission of carcinogenic air contaminants. The South Coast Air Basin is currently in nonattainment status with respect to the National Ambient Air Quality Standards (NAAQS) for ozone. In California, authority to regulate stationary sources of emissions has been delegated to local air quality management districts. Therefore, these rules, having been promulgated by

Table 1

Bartolo Well Field
Chemicals of Concern
(ppb)

Chemical	Federal MCL	MCLG	California MCL
Carbon Tetrachloride	5	0	0.5
1,2 - Dichloroethene	70	70	6
1,1 - Dichloroethene	7	7	6
Methylene Chloride	5	0	---
Perchloroethene (PCE)	5	0	5
Trichloroethene	5	0	5

SCAQMD in 1990, constitute a promulgated state requirement under a state environmental law, as set forth in CERCLA § 121(d), that is generally applicable.

SCAQMD's Rule 1167 was a TBC (to be considered) that EPA intended to follow, in the 1988 proposed plan. Public comment supported the inclusion of air emission controls, and therefore the ROD included installation of air emission controls (off-gas vapor phase GAC treatment) to comply with SCAQMD Rule 1167. This rule is no longer generally applicable to existing or proposed air stripping systems operated by private parties within the South Coast Basin, therefore, it is not a TBC.

The current applicable SCAQMD rules require, among other things, that all new or modified facilities emitting ozone precursors (Regulation 13), VOCs and toxic emissions (Rule 1401), install Best Available Control Technology (BACT) to limit air emissions. This is to limit excess cancer risk from toxic air emissions to less than 1×10^{-6}. At the current contaminant levels found in the Bartolo wells, an air stripping facility with BACT would be expected to emit approximately one pound per day of total VOCs. The Projected future wellhead and depth-specific contaminant concentrations that were expected to be extracted from the Bartolo Well Field for treatment, and formed the basis for air stripper design, would cause projected air emissions to substantially increase. At the maximum projected water treatment capacity, the air emissions, without BACT to limit such emissions, could reach twenty pounds total VOC emissions per day. The original ROD meets

BACT under the SCAQMD regulations. However, SCAQMD requires that "offsets" (as defined under Regulation 13 and Rule 1401) be acquired by any facility emitting more than one pound of VOC emissions per day. The facility, as designed under the original ROD, included a boiler to preheat off-gases. This boiler would have produced nitrogen oxides and sulfur oxides as products of combustion. The current design has incorporated an electric pre-heater in order to eliminate this source of ozone precurser emissions, as required under Regulation 13. The original facility design utilized a carbon adsorption off-gas treatment system that would have treated 90% of the maximum expected emissions. The current design has utilized changes in both the towers and the off-gas treatment to remove 95% of the maximum expected emissions as required by Rule 1401. Because the facility as designed under the original ROD would have allowed approximately two pounds of VOCs plus boiler emissions to be released to the air, "offsets" would have been required for all air emissions in excess of one pound per day. The treatment system as modified under the ROD Amendment will be limited to one pound or less per day; hence, no "offsets" are required under the ROD Amendment.

b. overall protection of human health and the environment, short-term effectiveness and long-term effectiveness

Original ROD Residual Risk

Water: 5×10^{-7} (Treat to 10^{-6} target risk)

Air: 5×10^{-7} (Assumes 90% removal)

Amended ROD Residual Risk

Water: 1×10^{-5} (Treat to MCLs)

Air: 2×10^{-8} (Assumes 95% removal)

These criteria were reevaluated in light of both the new MCL for PCE and the SCAQMD regulations for air emissions control.

The ROD Amendment requires reevaluation of this criteria because compliance with the MCL for PCE will result in a residual risk for the treated water that may be slightly higher than in the original ROD, if the projected contaminant levels are ever reached. The new residual risk of 1×10^{-5}, resulting only if the maximum projected contamination levels are realized, falls within the EPA policy for a target residual risk range between 10^{-4} and 10^{-6}. These levels, projected by computer modeling may, in fact, never be realized.

Compliance with this new MCL is considered protective of human health. Treatment of water to a quality meeting all federal and state drinking water standards is consistent with EPA policy. Treatment of water under the original ROD was set at a level considerably lower than the drinking water standard for PCE because there was no MCL calculated for PCE at the time. The ROD Amendment meets the new drinking water standard. The design of the treatment facility established a target treatment level lower than the "never to exceed" level. In so doing, the actual concentration of PCE in the treated water will be somewhat lower than the MCL.

Compliance with SCAQMD regulations is protective of both human health and the environment. Regulation 13 limits ozone precursors

within the Los Angeles air quality basin in order to reduce smog formation. Rule 1401 limits risk due from air toxics to less than 1×10^{-6}. Generally, a risk assessment is required of all facilities; those exceeding 1×10^{-6} risk are required to use BACT to limit emissions. Rule 1401 allows 5 years for environmental remediation projects to come into compliance with the risk requirements. Because this facilitity was in design at the time of promulgation, EPA decided full compliance with the regulation at this time was preferable.

c. reduction of toxicity, mobility, and volume of contaminants

Original ROD Adequate for all media if carbon is regenerated

Amended ROD Adequate for all media if carbon is regenerated

Evaluation of this criterion for impacts on the groundwater basin is unchanged from the original ROD. There is potential for slightly less reduction of toxicity, mobility, and volume of contaminants to receptors under this amendment, if contaminant levels ever reach the projected maximum. However, the new cleanup level is still within EPA's acceptable risk range.

d. technical and administrative feasibility of implementation

Original ROD Feasible

Amended ROD Feasible

Evaluation of this criterion is unchanged from the original

ROD.

e. capital and operation and maintenance costs

Original ROD $15,266,000 (based on 5% interest rate and 30-year project life. Cost estimate from OUFS.)

Amended ROD $24,662,000 (based on 5% interest rate and 30-year project life. Cost estimate from 60% design.)

Cost-effectiveness of the selected remedy was reevaluated. Costs for the two alternate carbon adsorption configurations described in the OUFS were updated to 1991 dollars by adding a factor of 13% to the 1988 estimate. Feasibility study estimates are not based on detailed design work and may vary between -30% to +50%. Figure 3 shows the updated cost estimates for both configurations of liquid phase carbon adsorption system along with the cost estimate for the air stripping system. The estimate for the air stripping system was produced as part of the 60% design package, and is expected to vary approximately 15%. Treatment to MCLs rather than to 1 ppb will save an estimated six million dollars over the course of the project.

As design progresses, the unknown variables that lead to uncertainty in cost estimates decrease. To properly compare cost estimates, not only must the actual cost estimates be compared, but the uncertainty associated with the estimates must also be compared. The uncertainty associated with the 60% design estimate is considerably smaller than the uncertainty associated with the

Figure 3

Current Design Cost Estimate for Air Stripping*

- Current cost estimate of Air Stripping* with vapor phase granular activated carbon air emissions treatment system.
  - Estimate reflects 60 percent design completion, less the estimated savings due to implementation of recommendations made in a *Value Engineering Study*. Estimate is expected to vary within 15 percent. (Range = $20,963,000 to $28,361,000)

    ..... $24,662,000

Updated Feasibility Study Estimates for LGAC Systems*

- Suburban 1988 OUFS cost of "dual bed" liquid phase carbon adsorption (series configuration of two carbon vessels) (OUFS Alternative G)
  - Updated to 1991 dollars to account for inflation. Estimate is expected to vary between -30percent to +50percent. (Range = $17,866,000 to $38,284,000)

    ..... $25,523,000
- Suburban 1988 OUFS cost of "single bed" liquid phase carbon adsorption parallel configuration of carbon vessels) (OUFS Alternative H)
  - Updated to 1991 dollars to account for inflation. Estimate is expected to vary between -30 percent to +50 percent. (Range = $16,370,000 to $35,080,000)

    ..... $23,387,000

*The present worth estimates above are based on a 30-year project life and a 5 percent interest factor.

pre-design estimates. The result of this decreased uncertainty is that there is a high probability that the air stripping system will cost less than the Granular Activated Carbon (GAC) alternatives originally proposed.

f. state acceptance of alternative

Original ROD Yes

Amended ROD Yes

Evaluation of this criteria is unchanged from the original ROD.

g. community acceptance of alternative

Original ROD Yes

Amended ROD Yes

Evaluation of this criteria is unchanged from the original ROD with respect to the facility. The decision to delay construction is based upon comments received during the public comment period for this Amendment.

IV. STATUTORY DETERMINATION

Considering the new information that has been developed and the changes that have been made to the selected remedy, EPA believes that the remedy as revised by this Amendment remains protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this interim remedial action, and is cost effective.

Under the present conditions, this remedy will not result in hazardous substances remaining on site above health based levels. This remedy is protective of human health and the environment. The

five-year review will apply to this action to evaluate the permanence of the remedy. Under current conditions, there is no contamination remaining on site above health-based levels, therefore, the statutory requirements of CERCLA §121 for remedial actions are not applicable.

V. PUBLIC PARTICIPATION

EPA has presented these changes to the remedy in the form of an Amendment to the original ROD. EPA held a thirty day public comment period on this Amendment. All comments received and EPA's responses to them have been included in the Administrative Record.[7]

---

[7] See footnote number 1 for further information regarding the public comment period and Administrative Record.

Record of Decision Amendment
Responsiveness Summary
Suburban Water Systems/Bartolo Well Field Operable Unit
San Gabriel Valley Superfund Site Areas 1-4

A. Overview

At the time of the public comment period from June 25 through July 25, 1991, EPA had selected an amended alternative for the Suburban Water Systems/Bartolo Well Field Operable Unit (SWS' Bartolo Well Field OU). EPA's recommended amended alternative addressed the treatment level for perchloroethene (PCE) in the extracted groundwater, the 30 year estimated cost of the project, and air emissions levels. Based on comments received and groundwater data showing contaminant levels have not increased (contrary to modeling predictions), EPA has decided to postpone construction of the treatment system. This decision will be subject to a five year review to assure that the monitoring continues to provide adequate protection of human health and the environment.

The major issues or concerns expressed in the six letters submitted to EPA during the public comment period questioned the economics and scale of the proposed treatment system, the ability of the model to accurately predict future concentrations, and even the need to build a treatment system, given current groundwater trends of lower contaminant concentrations. Only one commentor supported the construction of the Bartolo treatment system. Two commentors stated that the necessary Remedial Investigation information to evaluate the model (used by EPA) was not released to the public. These same commentors were also concerned about liability and who ultimately would be expected to pay for the project. One commentor offered suggestions on preventing future groundwater contamination by better regulating underground tanks.

The major concerns expressed during the July 16, 1991, public meeting were regarding treatment levels of extracted groundwater from initially 1 part per billion (ppb) for PCE, to 5 ppb for PCE, following recently promulgated federal and state drinking water standards. There were also comments and questions on the accuracy of EPA's model and on the schedule of specification contract awards for the proposed treatment system.

This responsiveness summary is divided into the following sections:

- EPA Activities Prior to the Public Meeting
- Summary of Comments Received During the Public Comment Period and EPA Responses

B. EPA Activities Prior to the Public Meeting

Prior to the beginning of the public comment period, EPA published a public notice on June 19, 1991, in the San Gabriel Valley Tribune. This notice described EPA's proposed changes to the 1988 Suburban OU ROD and announced the public comment period and the upcoming public meeting. The notice also announced locations where the original ROD and Proposed Plan were available at the Whittier Central Public Library and at the EPA information repository in San Francisco.

EPA also prepared a 6-page fact sheet describing the proposed changes to the original ROD. Copies of the fact sheet were mailed on June 23, 1991, to the general mailing list for the San Gabriel Valley Superfund Site. This general mailing list of over 1,00 names consisted of elected officials, media representatives, representatives of local cities and local districts, and PRPs.

C. Summary of Comments Received During Public Comment Period

Comments received during the public comment period for the SWS' Bartolo Well Field OU are briefly summarized below. The comment period was held from June 25, to July 25, 1991.

1. The San Gabriel Basin Industry Coalition (the "Industry Coalition") commented, there is an inadequate basis for EPA to proceed with the project because the "community" has been denied the necessary Remedial Investigation (RI) information to review the modeling used by EPA. Therefore, the project should be delayed pending review of the data.

   EPA Response - All of the data used for the Suburban modeling has been available to the public in the Administrative Record repositories located at the Whittier Central Public Library and the EPA information repository in San Francisco.

2. The Industry Coalition commented that the design capacity of the treatment system exceeds the volume of water currently being pumped. They suggested downsizing the treatment system or blending the water.

   EPA Response - The treatment plant capacity was designed for maximum capacity and variable flow to account for a wide range of conditions. If groundwater conditions change to the point where building a treatment plant is necessary, EPA will reevaluate the treatment plant design and reevaluate the current SWS'Bartolo well locations under observed conditions.

If they are not appropriate, EPA will evaluate new well location(s) and new treatment system(s).

3. The Industry Coalition also commented "there is no need for remediation based on current circumstances," ....

   EPA Response - Based on recent groundwater data which show that contamination levels have not increased, EPA will delay construction of the treatment plant until there is an increase in contamination levels as described in the ROD amendment.

4. Munger, Tolles & Olsen commented that since PRPs were not identified at the time of the original comment period on the Suburban Proposed Plan, "... comments on the proposed amendments provides no meaningful opportunity to comment on the proposed remedy."

   EPA Response - EPA published a notice of availability of the 1988 Suburban Proposed Plan in the San Gabriel Valley Tribune and the Whittier Daily News. EPA mailed copies of the 1988 Proposed Plan to approximately 800 names, including private individuals, companies, and elected officials. In addition, EPA mailed copies of the 1991 Suburban Proposed ROD Amendment to over 1,000 names including approximately 300 PRPs. Furthermore, page 1 of the June 1991, Proposed Amendment Fact Sheet for Suburban stated the opportunity to comment on the recent proposed amendment, the alternatives on the original Suburban/Bartolo Operable Unit Feasibility Study (OUFS), and the Administrative Record (AR). EPA also announced twice at the July 16, 1991 public meeting for the Suburban/Bartolo amendment that the public was being given the opportunity to comment on the AR, the proposed amendment, and the original OUFS. Thus, EPA believes there has been ample opportunity for the public to comment on all aspects of the proposed remedy.

5. Munger, Tolles & Olson commented that the necessary RI information was not released to the public and therefore, ..."it is impossible to comment meaningfully on the proposed remedy."

   EPA Response - See EPA response to comment #1.

6. Munger, Tolles & Olson also commented that until the need for the project is more fully justified, the contracts should not be let.

   EPA Response - Because construction of the treatment system is being delayed, contracts have not been let.

EPA assumes "contracts" are for construction of the treatment system. Also, see EPA response to comment #3.

7. The Upper San Gabriel Valley Municipal Water District ("the Water District") expressed its concern on the economics of the project. The Water District also asked for the modeling to be revised to reflect an increase in population and therefore an increase in pumping rates and the potential impacts of a lowered water table, and reduced groundwater flow through the Whittier Narrows.

EPA Response - Revising the model to reflect an increase in population would be extremely difficult if not impossible, as this would require predicting demographic changes within a limited area of the San Gabriel Valley which would be very difficult to do with any degree of accuracy. The commenter also assumes an increase in population would directly lead to an increase in pumping of groundwater. It is possible that water demands for an increaseing population could be met by other means such as importation of water from other sources, or by conservation of water.